

LAU  
Islands

{ Yangasa  
Navutu Tama  
Yangasa' Levu  
On eata  
Aiwa

Lakemba  
Nai'au  
Vanua Vatu

XVII.

BERNICE P. BISHOP MUSEUM  
HONOLULU, HAWAII

FIELD NOTE BOOK



Dupl. No. on p 33  
(No. 475)

BERNICE P. BISHOP MUSEUM  
HONOLULU, HAWAII

# FIELD NOTE BOOK

Subject.....

Locality.....

Member of Staff.....

Date..... 19.....

# Contents

Yagosaí - - - - -	2
Navale Ihoia - - - - -	2, 3
Yagosaí Loma - - - - -	6
Cineola - - - - -	7
Yagosaí - - - - -	43
L. J. Menda - - - - -	45
Yagosaí - - - - -	46
Yagosaí - - - - -	52















Bottom Samples - <sup>(all mts)</sup> Kargasa

8

	Depth	Bearings
Scraped all part of	10 fathoms (about 1000)	{ S. end Navutu Isoma S 70 W " " K. Levu S 45 E N " Navutu Is. N 55 W
sampled bit picked out	16 "	{ S. end Navutu Isoma N 70 W " " K. Levu S 70 E N " Navutu Is. N 60 W

- a rocky bottom probably.

R. (F87) #3 S. end of K. Levu looking N 80 E - rocky underland "terrace" up to 75' above S.L. in a rocky rim - much flat & only 10-15' above S.L. - trees also give terrace a uniformity of height that it does not deserve.

\*✓ <sup>Navutu Isoma</sup> Temp. 25.7° at 3<sup>00</sup> - clear - light breeze. This AM - took 1/2 gal. of water in 8" water off 'Good Morning' anchorage.

Fri. July 27<sup>th</sup>

R. XVII (F88) N.G. - Repairing canoe - Navutu Isoma  
5 - House - 11 years old!  
- Sailed to Mothe, arriving 11<sup>00</sup> PM.

Sat. July 28<sup>th</sup>

R. XVII #6 - Captain + family, Mothe - (inf. with child) N.G. in left back.

Sun. July 29<sup>th</sup>

R. XVIII #1 (F89) Greater SW barrier - from seaward side

(Took morning of canoe being loaded at Mothe, crowd at Mothe, show, canoe very + fishlike reef)

R. XVIII #1 (F90) Skipper steering (1/3 out from)

" (F91, 92) - Greater passage - entering

ONEATA

Traverse East from Village (Waingori)

Sta.	Pace	Dir.	Remarks
1	0	S 75 E	on beach - first rock
2	215	S 55 E	" " " "
3	355	S 40 E	" " " "
4	436 + 490	S 40 W	ls. tyeni - red, porous, 0-5' elev - poor forams?
5	580	S 5 W	ls. - gray, porous, 0-5' elev - poor forams?
6	610	N 80 E	ls.
7	665	N 55 E	ls.
8	710	N 40 E	" <sup>12 20 5</sup> <sub>12 5 2</sub> <sub>4 4 2</sub>
9	750	N 20 E	"
10	825	N 65 E	crossing beach tyeni - flat & land
"	1270	E	" continue - " " "
12	1500	S 65 E	" " " "

6



13 1650 S40E - as above

L438 14 1740 S35W - base of 15-20' exposure  
fairly soft, massive  
foram ls. - almost solid  
discon. forams - with a  
few large, flattened  
forms (like *Tor* stuff). Pak  
fairly soft, not distinctly  
bedded or jointed - with a  
small amount of vol. waste mixed  
with forams.

L439

return to  
main section  
(see p. 41)

15 1790 S5E - on beach - good place to  
measure section. Collected  
upper zone  
16 1865 S25W Eel - Ostrac - forams - lower  
bed - zone that under L438?  
17 1900 - (return to village - sta. at big  
boulder near point)

Mon. July 30<sup>th</sup>

Traverse along coast west of Waingori

Sta.	Pace	Dir.	Remarks
1	0	S85W	sta. of yesterday - on beach - beach rock
* 2	330	N85W	Rotten forams (forb.) - ss. on on bed of flat bedded ls. (later?) - can probably get better stuff inland.
3	420	S80W	- rather, rounded ss. (P. rock on beach - slightly higher than last but may underlie
4	650	N75W	Beach rock - flat low point - sand area along shore
5	715	N85W	- at 685 - soft sand - stuff with beach and clay + mud. shells in sand 3-4' above H. tide - not bedded - are well preserved
6	900	N75W	- Beach - no beach rock
7	1020	N50W	- " " " "
8	1145	N30W	- flat inland
9	1210	N5W	- some ss. - some gray sand beach point - flat inland
10	1275	N20E	- as last
"	1335	N30E	- " "
11	1500	N45E	- " "
L440 13	1600	"	- at 1528 point is in sand 2' boulder zone - liquid 9' ft in diameter - a massive rock - some like the good pillow - like massive ss. 3' ft - some banding + suggestion of clinal structure - still a flat inland
L441 14	1620	"	- flat structure? - formation are N55E, 50E - then are fine - rock later det. - exp. for 13 p. - ship down to E.
15	1650	N60E	- grassy hills now coming down close to shore - still no boulder zone - it continues ahead - at 1720 19' steps + beach rock begin
16	1775	N55E	- looks like in attempt to be close to coast - the end is probably all of craps for local use in + "ss."
17	1890	N45E	- beach rock, ends beach ahead



18 1980

N55E

Beach

L442 19 2110

Bank of gray spotted porous  
ls. like that of sta. L436  
+ L437 - calcareous  
red - here up to 15' a more  
above 14' 7" - trace of coral  
by rock water.

Graded to top of low rounded hill lying W  
of town of Wainona - back some more low rolling  
land - much of which is cultivated. There  
are light gray patches of soft fossiliferous  
impure ls. - which I suspect, in most places  
has a considerable amount of fine red soil.  
West tip of island is a coral flat & then  
rounded hill occupy central part of island  
between West flat & village. On eastward  
(N75E to center) is a large open basin  
but little else sea level & covered  
with coconut grove. Part of the  
S rim of this basin (close to coast  
& E of Wainona) is a rounded grassy  
hill - Beyond (E) & all way round  
coast seems higher & its comparatively  
dense vegetation suggests hard ls.

This central basin is very suggestive  
of Mamuka - though it is less clearly  
defined. The topography to be seen  
from here is all gentle slopes - no very  
sharp ridges or steep cliffs. The basin  
slopes - even one developed on thin soft  
impure ls. is distinctive.

Sta.	Pace	Traverse Levels	Dir.	Remarks
L443	0	-	S70E	Tuffaceous sand or ls. - finely ag. in places - much fine red soil & coral cement - many forams & frag. of <i>Pecten</i> (look like <i>Tara</i> & <i>Vatula</i> ) - bedding not distinct.
"	90	-4	N85E	
"	185	-2	"	100 60
"	220		N80E	
"	280	-3	S60E	
"	330	-4 1/2	E	
L444	355	-6	N75E	foram ls. - with <i>Pecten</i> (look?) - coral frag. etc. mostly cemented & fossiliferous - larger forams L443
L445	375	-7	N80E	<i>P. muricatus</i> , etc., etc. from same kind rock 5-10' lower - not off beach
"	412	-9	S50E	
"	459	-13	S15E	







- 1 415 N30E R  
 2 525 N75E "  
 3 585 N60E " - soft  
 4 620 N85E ls.  
 10 670 N75E "  
 " 710 N60E "  
 12 830 " " 50' nat. cliff  
 13 895 N40E - du. reef? - on hardward  
 14 940 N25E - ls.  
 15 975 N70E "  
 16 1030 N65E "  
 17 1145 N45E "  
 18 1230 N20E "  
 19 1290 N45E "  
 20 1490 N60E "  
 21 1614 N35E "  
 22 1810 N "  
 23 1870 S85W " - round off (converging seaward) here to last  
 L447 24 1915 N " track begins sample of hard porous ls.  
 25 2010 N25E  
 26 2170 N40E Beach continues past halloge (marked palm here) -  
 27 2320 N55E " " beyond "  
 28 2465 N85E - as last  
 29 2535 S25E - " "  
 L448 30 2560 - - lead (shar.) and ls. porous + coarsely recrystallized

Returned to Waingona on inland track which the coast entered from coastal cliffs. Village of Ndakuloa lies on flat at bottom of wide loam - track to Waingona climb high grassy hill noted yesterday. This hill about 115' + in flat topped. Between it + hard ls. cliffs forming coast is a distinct L449 depression. Rock of hill a tuffaceous sand without a frame - very soft + friable - deep red soil - Vol? (not from ls. member)  
 L450 Sampled this rock again. Upper + beyond + it elev. of 25' + - then it is more undulating but still very friable - some iron frame? - a soil of vol. ss. Inland are wide grassy flats that can be cut with a hoe.

Continuing toward Waingona the tuffaceous rock becomes more fossiliferous







Traverse to NE along NW coast (continuation)  
of first traverse of yesterday - July 30th

Sta	Pace	Dir	Remarks
1	0	N75E	Sta 19 of page 12. V. 20030471 - ls in situ?
2	25	N60E	ls - looks so sure.
3	120	N40E	- small beach began at 80 p.
4	240	N35E	- beach & beach rock and at 220± more ls - probably not in situ. - shoulder of red cliff stuff on small beach at 315 p.
5	460	N70E	- ls + some large r. g. boulders between this pt. & last. - some of ls. not in place
6	435	N40E	- tiny beach & lots of ls - some in tessellated 12 p. in direction - but plastered around foot with red beach daps - in place? - high ls. scrapes (150±) close to coast →
7	480	N70E	- on last tuff ls. probably and tuff zone.
L454 8	560	N80E	- outcrop of rock with s.l. from above resting on it - the daps plastered in contact - daps N5E, 60-65 W? - smaller spec from edge of 3' daps? many more very pointed.
9	600	"	- the coast moving toward the far p. S20E
10	665	N45E	- L452 block here
11	690	N50W	- end beach - ls here

1934  
Lau Islands  
Ladd  
2065

I am  
very  
dist.

liber along  
to of living

some - low

- ls here  
too bad +  
West - just  
look in  
on the right  
and here  
brown +  
ss.  
red over

L455

L456

23	1520	S80E	in very definite - at daps 15° NE±.
24	1550	N55E	ls (small patch) - the the 2nd stuff
25	1602	S70E	" on last
26	1640	N45E	"
27	1660	S80E	"
28	1685	S25E	"
29	1715	N50E	" ends - beach began



265

Ladd  

---


XVII

1934

Lau Islands



Traverse to NE along NW coast (continuation  
of first traverse of yesterday - July 30<sup>th</sup>)

Sta	Pace	Dir	Remarks
1	0	N45E	Sta 19 of page 12. V. and 955 - ls. in situ?
2	25	N60E	ls. - back in place
3	120	N45E	+ small beach began at 80 p.
4	240	N35E	- beach & back rock end at 220± more ls. - probably not in situ. - boulder of red buff stuff in small beach at 315 p.
5	400	N70E	- ls. + some large 15' boulder between this sta. & last - some of ls. not in place
6	435	N40E	- tiny beach + lots of ls. - some as toadstools 12 p. in discrete - but fractured around foot with over beach dips. - in place? - high ls. scarp (110±) down to coast → ls.  "tuff ls. probably and tuff zone."
7	480	N70E	- on last
L454 8	560	N80E	- outcrop of rock with x.l. from above resting on it - see dips. plastered in contact - dips. N55E 60-65 W? - smaller spec. from edge of 3'± dips? main mass very faulted.
9	600	"	- ls. with morning trav. ls. few p. S20E
10	665	N45E	- L452 block here
11	695	N50W	- end beach - ls. here
12	710	N45E	- in place? - ls.
13	725	N70E	- very ls. chert am
14	840	N65E	- cutting off minor arroyo - with dist.
15	870	N55E	ls.
16	895	N70E	" - arroyo
17	1000	S80E	" - reef patches along here - lots of living coral
18	1050	S65E	"
19	1090	N45E	Beach begins
20	1200	N65E	" continue - low ls. at back.
21	1410	N75E	- on last
L455 22	1445	"	- beach ends - ls. here in the red Pecten bed + where traced West. - just at back of beach at se seen directly over the soft white ls. which here contain few? forams + in greenish ss.
L456			This contact appears to be a good one - in very definite - at dips 15° NE±.
23	1520	S80E	ls.
24	1550	N55E	ls. (not just place - the the stuff)
25	1602	S70E	" on last
26	1640	N45E	"
27	1660	S80E	"
28	1685	S25E	"
29	1715	N50E	" ends - beach begins



30	1835	N45E	2 springs issue on beach from lake	22
31	2010	N	- beach continues	
32	2150	N80W	- " ends - ls. begins	
33	2245	N	- ls.	
34	2295	N20E	- "	
35	2375	S45E	- "	
36	2415	N40E	- "	
37	2470	N60E	- "	
38	2540	N80E	- "	
39	2580	S25W	- "	
40	2625	S50E	- "	
41	2717	S10W	- "	
42	2780	S65E	- " ends - beach begins	
43	2885	N80E	- beach continues	
44	3150	N55E	- "	
45	3305	N15W	- " ends - ls. begins	
46	3390	N5E	- ls. - ls. Woodlark (2) + reef patch off off pt. - side N95W of here	
47	3477	N70E	- ls.	
48	3525	S50E	ls. - id off beach - N15E of here	
49	3585	N45E	- ls. ends - beach begins	
50	3730	N15E	- Woodlark 2 spring on beach - from lake at 3650	

51	3825	N75W	- beach ends - ls. begins - set in 575' of lake
52	3875	N15W	- ls.

L457	53	3920	N70E	- ls. but large (3 1/2') basalt boulders are cemented in rings - may be det. but cannot say for sure it is in place
	54	3960	-	- small basalt outcrop or (more probably) a coarse cy. sugar nodules, which is mainly of black ls. - see note for in cy. but do not think it Acc. End trav.
L458				
L459				

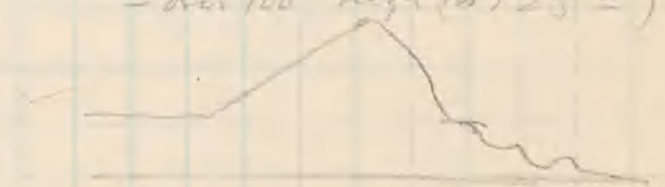
Wed. Aug. 1st

Traverse East from Ndakiloa, along coast

Sta.	Pace	Dir.	Remarks
1	0	S40W	Sta. 30 of July 31 (p. 17).
2	12	S20E	ls.
3	88	S80E	"
4	208	N60E	" - half over beach line 30° E sea & land - saw this point above sea - no steps - is 125' ± - may be more
5	250	N45E	- ls.
6	300	N25E	- "
7	435	N40E	- " ends, beach begins
8	640	N70E	- beach, ls.



- 9 710 E - ls.
- 10 775 N65E - small beach & beach rock  
begin
- 11 820 " - low of beach to early  
beach inland
- 12 845 N85E - beach cont.
- 13 885 S35E - ls. begin
- 14 1000 S70E - "
- 15 1010 N45E - "
- 16 1070 N20W - " round off here to beach
- 17 1110 N25E - beach begin
- 18 1200 N85E - " cont.
- 19 1235 S40E - ls. - on passing  
road crossed ls.  
main in SE flc  
→ ls.
- 20 1260 N55E - "
- 21 1290 N10W - "
- 22 1330 N25E - long beach begin - push  
off headland ahead  
- hyl. correct - 35°  
to sand + 30° to sea  
- over 100' high (as 120' ±)



- 23 1550 N50E - Beach continues - a  
wide flat inland
- 24 1700 N85E - beach cont.
- 25 1795 S60E - vol. beach not begun -  
no rock agg?

L460 26 1890

"

- beach not in form  
of a low beach, the  
top is eroded here

- 27 2080 N25E - 1st some highest  
tidal here at overline  
a tuff? - beach rock  
y. not more than 2'  
thick here
- agg. cliff here near  
of 200 - this is source  
of beach ag. boulder  
Sd. of ls. here N60E  
phase

L461 28 2113

"

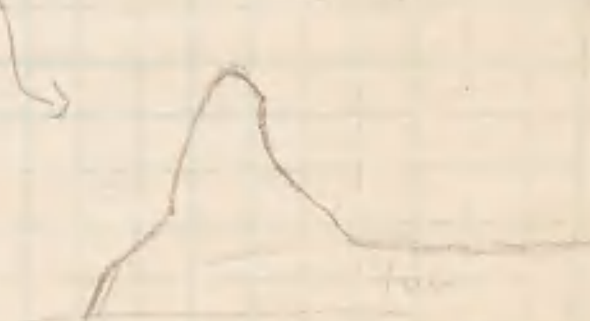
- fine agg. on flat  
top of cliff here like  
D. strigosa of tuff.  
- sample of agg. of flc +  
pl. of sd. (pbb. thin)

- 29 2185 N50W - on land - ls. here N63E
- 30 2235 N65W - on tuff - agg. of head  
cl. 5-10° W
- 31 2350 N85W - beach ag. from head  
of. incl. + joint cleve  
highest - told see straight
- 32 2520 N75W - on land - very low  
inland apparently
- 33 2745 N60W - good beach ends at 2720  
- ls. here N73E of 2745
- 34 2930 N35W - not seen from beach up  
- still flc inland
- 35 3005 N80W - ls. massive on pond
- 36 3070 N45W - beach begin - ls. blocks  
between here & last seen to  
be on tuff at HT. line.

L462 37 3295

(sup. 27)

- ls. begin - end here - ls.  
here N85E - agg. grade  
beach





Sta	Obs	Clas	Dir	Remarks
1	0	H.T.	S60W	Mountain (Sta 26, p. 16)
2	220	—	N80W	- edge of slope
3	262	+1 $\pm$ (levels)	S55W	- " "
4	375	—	S45W	- flat
5	450	+1	S75W	- gentle rise ahead
6	500	+2	W	- " " "
7	550	+3	S70W	- base of hill - 20' ls.
8	700	+13	S60W	- tuff ls. here + probably from back
9	815	+19	S70W	- top - flat + ahead
	860	+20	"	- on back
	918	+21	"	- " " - hill on south W of Hakeke on at least 40' above here
10	980	+22	S75W	- high pt. - long descent ahead
(L. 449)	1007	+20 $\frac{1}{2}$	"	- tuff ls. in trail
	1160	+13 $\pm$	"	- gentle descent ahead
"	1245	+10 $\pm$	S78W	- descent ahead
12	1370	+6 $\pm$	S55W	- flat + ahead - lake flat 2 levels below us to right 100-150 p.
13	1565	" $\pm$	S80W	- gentle rise ahead
	1660	+8 $\pm$	"	

L463

collected 35' to W.A.S.

Made very soft for +6' long each abundant but hard to extract. + 10' - many as for mounting. Many from, *Section, other birds* - in shallow water - *Bumprister* - some 95' above, etc.

- detour 35 p. N13W to good outcrop tuff ls. - lake basin here 75 paces beyond in same dir. - Cretaceous 10-15' above lake floor + last str. on trail in 6' feet above outcrop.

resume trail from 1660 p.

	1785	+8 $\pm$ (too high?)	S80W	
"	1965	+9 $\pm$	S70W	- ascent ahead
	2025	+10 $\pm$	S55W	- lake on trail to here - the outcrop around lake ahead - hill 5-6' low + higher
"	2245	+16 $\pm$	S70W	- low descent -
(L. 451)	2355	+12 $\pm$	"	- L. 451 taken 30 yds $\pm$ N
17	2555	+10 $\pm$	S75W	- steeper ahead - ascent
*	2716	+4' (260' high)	"	- edge of valley + flat ahead
18	2790	" $\pm$	N65W	
19	2855	(upward in)	N10E	
20	2865 $\pm$	" $\pm$	"	- to old house

(continuation of morning's coastal trail)

(L. 462)	37.3295	N35W	L. 462 sta p. 25)
38	3405	S80W	- ls.
39	3450	N50W	- brush + lowish rock
40	3610	N25W	- ls.



- 42 3550 4550 small - open
- 43 3810 4650 5 ft - open, thin
- 44 3960 4550 - 2 ft - 2 ft - 2 ft - 2 ft
- 45 3320 4550 - 1 ft - 1 ft - 1 ft - 1 ft
- 46 3690 3800 - 1 ft - 1 ft - 1 ft - 1 ft
- 47 3550 4130 5 ft - 1 ft - 1 ft - 1 ft
- 48 3550 3550 1 ft - 1 ft - 1 ft - 1 ft
- 49 4228 3720 - 1 ft - 1 ft - 1 ft - 1 ft
- 50 3550 3550 - 1 ft - 1 ft - 1 ft - 1 ft
- 1464 51 3550 3550 - 1 ft - 1 ft - 1 ft - 1 ft
- 52 3550 4050 - 1 ft - 1 ft - 1 ft - 1 ft
- 53 4140 3350 - 1 ft - 1 ft - 1 ft - 1 ft
- 54 4660 3450 - 1 ft - 1 ft - 1 ft - 1 ft
- 55 4800 3100 - 1 ft - 1 ft - 1 ft - 1 ft
- 56 4920 5 - 1 ft - 1 ft - 1 ft - 1 ft
- 57 4420 3200 - 1 ft - 1 ft - 1 ft - 1 ft
- 1465 58 4950 4950 - 1 ft - 1 ft - 1 ft - 1 ft

- 59 4740 3710 - 1 ft - 1 ft - 1 ft - 1 ft
- 60 5650 3550 - 1 ft - 1 ft - 1 ft - 1 ft
- 61 5140 4150 - 1 ft - 1 ft - 1 ft - 1 ft
- 62 5150 3150 - 1 ft - 1 ft - 1 ft - 1 ft
- 63 5170 3400 - 1 ft - 1 ft - 1 ft - 1 ft
- 64 5230 3400 - 1 ft - 1 ft - 1 ft - 1 ft
- 65 5260 3750 - 1 ft - 1 ft - 1 ft - 1 ft
- 66 5150 3550 - 1 ft - 1 ft - 1 ft - 1 ft
- 67 5310 - 1 ft - 1 ft - 1 ft - 1 ft

Third Day 2nd

Traverse from E to W

- | No | Bearing | Distance       | Remarks        |
|----|---------|----------------|----------------|
| 1  | N 70° E | 400            | to top of hill |
| 2  | N 30° E | 100            | to top of hill |
| 3  | 100     | to top of hill | to top of hill |

- 1466 5150 3550 - 1 ft - 1 ft - 1 ft - 1 ft
- 1467 N 50° E, 15° N - 1 ft - 1 ft - 1 ft - 1 ft



spot just beyond point where reading  
 L468. was taken. Here agg. comes in +  
 large solid block of olivine "basalt" from  
 it are over hillside - digging in  
 gully reveals agg. structure. Evidently  
 not fault beds directly over this  
 mass of agg. Gully outcrops are  
 badly weathered. - Boulders along  
 hillside for 140 yds. - then to big  
 sag + ls. comes in again - at  
 lower level, <sup>dip off (see below)</sup> - ~~resistance~~ of ag. now  
 obviously holds up hill

On E side of hill from ls. appears over of  
N30E, 35°± E. + stand in broad low sag  
 Gran. ls. here well bedded + has

L469 algal nodules - just to E of rock hill  
 L470 Strat. higher beds on to E. Here coll. a  
 large ect. + a small spec. of *E. megalodon*  
 thin place between look + L463 of  
 yesterday. - Many worm tubes (sand) weather  
 half out of rock

L471 Remarked vol? - from lake back E of  
 look + 96 paces S20E + then 110 paces N80E

<sup>stop for 10 p. to</sup>  
 high point (Iron-bark tree hill). - part of  
 hill that face lake seems all vol.  
 This creek with its deep red soil may be all  
 vol. (see L449)

Traverse from high point to lake + around  
 W. lake

- 1 0 - N10E - high Pt.
- 2 75 - N25W - vol. soil + frag. rock  
+ mag. sand
- 3 170 - N40W - as last - grassy hill
- 4 200 - N60W - brow of hill - high  
hills on N coast bear  
as follows:

crest of hill 2-3 miles  
 above high pt. on trail

- 1) N80W - wide creek
- 2) N35W - lower than 1)
- 3) N17E - 160±
- 4) N35E - 165±. + content  
on long way.
- 5) N65E - vol.?
- 6) N67E - vol.?
- 7) N70E - ls. - 5000 ft.  
end of lake basin seems  
to be just E.W.

- 5 240 - S72W - around hill - like swamp  
around this hill + lower  
to W
- 6 277 - N35W - down hill which  
slope part 25° slope

- L472 7 300 " - sample 2' of boulder
- 8 380 - N45W - face hill - practically
- 9 430 - N10W - hard ls. here - Ukanka
- 10 455 - N20W - start along lake
- L473 " 475 - N25W - " "
- 12 500 - N65W - Ngaramikalevo (lake's  
hole) - Bauma - separate



13	550	W	2 lakes here - all 2.5 - lake formed 5 passage at head water (thin rock)
14	580	S70W	
15	620	S75W	
16	690	N85W	
17	755	S85W	
18	800	S65W	
19	835	S30W	
20	880	S65W ±	
21	985	N70W	
22	1030	N80W	
23	1085	S70W	
L474	24 1135	N75W	Vatu Ndara (slipping rock) - stiff li. with large lenticular forams - 10 ft ± from lake
	25 1165	S75W	
	26 1265	N85W	- now 100 ft ± from lake
	27 1430	S80W	
	28 1525	N70W	
	29 1560	W	
	30 1625	S65W	- lake 100 yds ±
	31 1700	S65W	- " 200 ft ± away
	32 1800	N75W	

L475	33 1845	S75W	- tuff. ls. - thin loc - bathing pool in S13W (see p 28) Vunikerovika here N70E, 11°S (?) - lake fair
Dupl. No. see below	34 1925	"	- hard li. 20 ft to left
	35 1951	S15W	
	36 2070	S10W	
	37 2295	S15W	
	38 2350	S10W	to it home
	39 2400	-	↓

Miss. notes on Onata names: -

Sorilolo is name for point & beach (W) right up to point.

Ualanga is high ls. point south of Ndakumbad - supposedly 160' or it is highest pt. of rd. as noted.

L463 (fossil loc.) is called Ndakanga Koromutasei - summit of hill (hand of hawk)

\* Note in replotting Onata map & change. Take up of error in plotting, NE head of Kawakilevu Bay should be further to NW - then is row of NW coast will line up better.

Trail Bay, 3rd	Elev. 82
Dupl. No. see above	Trail Bay, 3rd
(= L446 p. 15)	0 S55E - Section + about nodules & boulders - last in rock OK - no?
3 30	N40E
1 124	N55E
1 220	- to home

- N35E, 15S - just E of crest of Western Mt. Hill

R. (P93) - 1 Western lake from E end hill



L476

Back of E. 10' hill in a coarse  
agg. with black up to 2' in section,  
some of which shows laminar - flow  
structure? - then white that close  
to base of hill 3-4 yds from lake edge.

Traverse path to E. Lake around latter

Sta.	Pace	Dir.	Remarks
1 0		N25E	- br. brown 6' ± above lake level
2 85		N60W	E face of ls. bottom slightly hummocky
3 130		W	
4 190		S45W	
5 220		N75W	
6 290		S10W	} heavy tan in bottom
7 298		W	
8 340		N60W	- 15 yds from edge - around
9 390		S60W	{ edge of shore at 375p
10 415		S10E	point called No.
11 450		S25W	- " " } of unmet edge - sand to cover
12 490		N70W	- " "
13 585		N85W	- turn
14 603		S60W	- " + ls.
15 640		N15W	- Saumina

L477 { detour 80. paces to S40E to outcrop  
of stuff in wet excellent section

(can be repaired. Also frag. plecto  
oyster - loose but OK I think)

16 665		N50E	
17 730		N8W	small point below the Sta + next property to right
18 840		N55W	edge of lake bed
19 865		N25W	- " " "
20 950		N15E	Kantam
21 1010		N30E	- mangrove + ls boundary
22 1052		N33E	
23 1090		N25E	Adriana in Canals cutting across pt. between them L 12'
24 1115		N25W	- pt. to R.
25 1175		N5W	- at 1185 ± lake 600 yds ± away
26 1227		N45W	1 ft?
27 1260		N20W	2
28 1300		N5W	
29 1320		N40E	- close to corner
30 1380		"	- 30 yds ± from lake
31 1465		N75E	
32 1495		N45E	- taken sand to left R. in top of bump - 300 yds ± away
33 1538		N55E	
34 1570		N75E	- N10W to corner 11.5 p. - middle of bay - 60 yds ± from lake



- 35 1615 S75E  
 36 1635 S60E  
 37 1670 S50E - ls  
 38 1710 "  
 39 1737 N45E - edge of lake pond +  
 40 1768 N70E - " " " from  
 41 1812 N65E - " " " fault hole  
 42 1853 N75E - " " " - out bank  
 43 1881 N55E - " " "  
 44 1920 N50E - " " " Rec coral & shell  
 45 1973 S50E - " " " rubble  
 46 2004 S - " " " ls wall  
 47 2062 S25W - edge lake - ls left  
 48 2135 S20W - out road track  
 49 2192 S15W - ls edge lake low  
 50 2245 S5W - broken ls to left  
 51 2280 S10W - high ls stretch to  
 52 2325 S30W - Mdrum-i-Teraca left - 60' +  
 53 2360 S10W - edge lake - uplift  
 54 2395 S15E - edge lake on land  
 55 2460 S20W - shore here 25-30  
 ls - rough

- 56 2475 S15W - on land  
 57 2495 S25W - " "  
 58 2525 S10E - mangrove  
 59 2562 S40E - low  
 60 2600 S25E - edge "  
 61 2672 S20W - Koro-i-mangia  
 62 2700 S5W - center of point  
 63 2770 S - here - lake 50 yd  
 64 2835 S85W - edge lake  
 65 2860 — return to former sta.

✓ W.C. - cave on land point to shore near Mdrum-i-Teraca  
 24.6° sun - bracket - more than 1/2 day - at S.L.  
 point 15' above - partly cloudy - light rain Mdrum-i-Teraca  
 Toyon Cave 1130 AM - tube 1/2 point etc.

Up hill to W of Mdrum-i-Teraca at  
 point on trail 55 p. beyond xl. ls. at  
 base - soft bedded rock (without frame)  
 in place N20W, 70E (±) East A1 reading  
 at 90 p. same rock - at 138 same - better  
 down center of slope 138 - then shift  
 boundary on W side of hill to and rd. as  
 in level form, member?

L478 Section & numerous large plicate oysters of  
 Vale Mdrum-i-Teraca - see map.

L479 Tuff-like ~~with~~ former - Mdrum-i-Teraca  
 - exp of S.L. - no distinct bedding - 6' + exp.

9 0 S55W  
 8 75 S75W



7	130	S82W
6	210	N45W
5	255	N55W
4	280	N35W
3	360	N45W
2	400	N50W
1	465	com. - Wauzoo - but to E

L480 Bonygo etc. from pt 100 etc = N70W  
of head - elev. 30 ± - see p. 39

L481 Jumbled, bedded, yellow-brown soft clay. 50' ±  
N55E, 9°W ± ? - probably near top vol.  
- see below.

Traverse from above sta. to Wauzoo

Sta.	Pace	Elev.	Dir.	Remarks
16	0	50'	N45W	L481 see above vol. boulder begins to litter hillside just ENE of here
15	50	10'	"	base of hill - flat beginning
14	110	0	N60E	beach - vol. on tidal flat
13	212	0	SSSE	along beach
12	275	10-15'	"	flat under hill littered with vol. bryoz.
11	360	65'	N65E	top steep slope top vol. - N65E, 10°W
10	400	55'	N70E	top boulder zone (cliff up to 6')
9	420	11 ±	S60E	on top boulder zone - coastal flat under greatly to NE
8	535	45'	E	same as last
7	565	40'	S75E	" " "
L482	775	35' ±	#	flat of boulder with
5	950	11 ±	SSSE	air garden
4	1020	11 ±	S60E	descent ahead over forams etc.
3	1060		S85E	- at 1060 is L480
2	1120		S75E	ridge limits at 1125
1	1245			tree at house

Sat. Aug. 7<sup>th</sup>

L483 Sta. 695 is W of Long Island - on trail  
by boulder line SSSE of here N45E, 11°E  
Vol. ss. - good reading

Note - on reduction of island like Orinda to a  
remnant encircled by a wide lagoon platform  
the main crown of the island is SE to cliff &  
dip 10° to 15° toward lagoon flat back end of  
the two previous work hands on - hand one  
can explain the flats around Orinda + Orinda

But noted on E side of Long Island  
hill - just N of trail

Flat E of Ndabulua runs N45E out  
id. from head - for at least 100 yds.

Top Kende Kende Pt.

Lo. cliff W of Ndabulua dip 32-38°  
to sea

Whole flat inland from beach W of  
Kende Kende Pt. - ls. boulder covered - one of  
the boulders are low + broken - grassy hill  
low between here first ls. of NE coast

Bearings

1) Loc. N62E

2) vol. shore 1/3 way to Loc. N42E - this







- 7 0 N40W  
 6 20 N35W  
 5 65 N10E  
 4 90 N N80W, few 5? -  
 probably not good rock  
 - buff ls with Pecten  
 etc - begin gentle ascent  
 3 125 N45W - or. soil  
 2 170 S80W - on main beach  
 1 258 — L483 (see p. 39)

W.S. in lake opposite here (few yds. to W)  
 time 1:15 PM - 25° hot full rain / hr  
 gust - fresh water - don not see +  
 full with tide, partly cloudy - like dawn  
 to S.E.

### Heck Sl. of Valley

N84W, 8°N - from ls - 35 p N20W  
 of high pt. - within fault reach  
 - latter than reaching on high point

L487 in sec. for colls from the top of  
 island. Ls of phos. ostrac. Pecten  
 & a few iron corals good Lath. nodular  
 & some bygonia, etc.

Still at end of island began path  
 S.W. to 25 border zone on S.W. beach

Sun. Aug. 5<sup>th</sup>

Note - Orinda (Wamgan) has good spring  
 flowing out of buff. ls at elev. of 30-40'  
 - high point of catchment area is only 105'

- change W. hill to north of 14th p.  
 - entering lake about 100 yds.

- coll. add. section along south  
 shore of W. lake

Mon. Aug. 6<sup>th</sup>

- Still delayed by bad weather - did  
 some writing, etc.

### AIWA

Tues. Aug. 7<sup>th</sup>

Ls of eastern island bedded <sup>to ±</sup> - deep ls  
 imp. Sand to have brown - steep - coast  
 walls steep till on by cliffs - just a  
 few rubbles & low pts. - heavily wooded  
 Land all place called Vatanigambra a  
 S.W. coast

L488 - or. ls from interior, fairly close to <sup>(N.W.)</sup> anchorage  
 (500 yds. ±) - entering from south - deep red

L489 - ls from interior basin - or. ls - from  
 go to 100 yds. above lake - fossils!

Interior a flat basin with red & numerous  
 outcrops of low ls. - ± fresh with surface



good, but not very good. The  
 ground is not very good. The  
 ground is not very good. The

1790. The ground is not very good. The  
 ground is not very good. The  
 ground is not very good. The

The ground is not very good. The  
 ground is not very good. The  
 ground is not very good. The

1791. The ground is not very good. The  
 ground is not very good. The

1792 (1797) The ground is not very good. The  
 ground is not very good. The

# L. A. F. M. B. A.

1793. The ground is not very good. The  
 ground is not very good. The  
 ground is not very good. The

1794. The ground is not very good. The  
 ground is not very good. The  
 ground is not very good. The



from L. 1000 ft. to 100 ft. to the  
 the from the top to the bottom  
 number 12920. The from  
 bottom to top is the same  
 but in the middle.

Aug 12

12920

Went to the two in the morning  
 the first is a flat plate - still 12920,  
 the top 35E - 12920 - 12920 and  
 12920 - 12920

12920 - 12920 - 12920 - 12920 - 12920  
 and all the from the top to the bottom  
 plate

the plate OK at top and bottom - the  
 from 12920 (25) in the middle of the plate

Most of the VT coast is not - near  
 the village of Malone the top of the plate  
 near the top of a sag in the main -  
 apparently the main river has  
 higher ground (SE-NW) on the

the coast.

Vermont export 12920 to the plate  
 from the top of the plate to the main  
 Malone (probably 12920) - some  
 of the plate is still a good  
 plate of 12920. "Bridges" of  
 plate mostly shown. The plate is  
 12920 - 12920 - 12920 - 12920 - 12920  
 some to the top of the plate - some to the  
 bottom of the plate - some to the middle of the  
 plate.

The main river is 12920 - 12920 - 12920  
 the main river is 12920 - 12920 - 12920

Mon Aug 13th

Went to the two in the morning  
 the first is a flat plate - still 12920,  
 the top 35E - 12920 - 12920 and  
 12920 - 12920

12920 - 12920 - 12920 - 12920 - 12920

the plate OK at top and bottom - the  
 from 12920 (25) in the middle of the plate  
 the main river is 12920 - 12920 - 12920  
 the main river is 12920 - 12920 - 12920







to left, it has a few small  
 in 15-25' from shore. The sea is  
 calm & smooth - no wind. Water  
 clear. All in mostly red. Near  
 shore it is 95' deep (horizontally) in  
 flat area of sand. The shore  
 is 100' x 100' but also 10' x 10'  
 and 10' x 10' of coral. <sup>forming</sup> <sup>flat</sup> in  
 shallow & filled with patches. There is  
 small in the center. It is not  
 long & thin, but it is not very  
 S.

2499 Large to Brownish.

(F98A, B)  
 23 - generous, quite fine from Brownish  
 (F99A) - looking 525' from Brownish - 1/2  
 100' at reef.

Described run & water. At 100' near mouth  
 of river. The water is just at  
 no such for from river. Water is  
 perfectly flat. No wind. The  
 bank just in the Bay of the (Jalapa).  
 - from the river.

Returned to river run & sample

Two large to shallow (Vata Thole in  
 Tarsus - rock covered by bark). In the  
 1500 spongy & of fine glass. Apparent  
 no of bark, and fragments - many  
 actually are such. But are very light  
 & poorly preserved. The two  
 stones 25' by 10' =

Returned to river run - 100' NW  
 over 100' from river. Water is  
 according to 100' - no good exposure  
 of contact - took sample.

1501

Returned to river run 510E  
 of village. (Marked) here is contact.

1502

rounded to bottom 1/2 in diameter

1503

The bottom is 100' - 100' 1504

1504

is a steady - 100' - 100' 1505

The water is 100' - 100' 1506

100' - 100' 1507

100' - 100' 1508

100' - 100' 1509

100' - 100' 1510

100' - 100' 1511



offspring of the great  
 old tree which stands on S.W. corner.

Feb 2 1951

Two day visit

Leave for the village of ...  
 meeting ... for ...  
 at ... the ...  
 with ...  
 village ...  
 distance ...  
 from village

L.505 To north of Thumavata ...  
 massive ...  
 very numerous, large ...  
 these are flat ...  
 in section (cf. ...)  
 the ridge ...  
 has a flattened summit ...  
 with ...

Summit - ...  
 fairly steep but well cliffed

Some ... with ...  
 not much soil anywhere

L.506 To ...  
 of ...  
 ... 125' + ...

...  
 + ...  
 ...

... 2500 to village

St	Dist	Dir	Remarks
1	200	N 20 E	... 2500 ...
2	100	N 20 W	...
3	150	N 10 E	...
4	250	N	...
5	300	N 20 W	...
6	375	N 45 W	...

L.508 9 505 ...  
 ...



8	545	N50W	- gentle ascent ahead
9	605	N65W	- on bank
10	660	N5W	- " "
11	695	N50W	- " "
12	780	N35W	- broad creek
13	850	N45W	- gentle descent ahead
14	885	N65W	- " " "
15	930	N45W	- descent ahead then gentle descent to coast
16	1290	S70W	- gentle descent ahead
17	1325	N70W	- " " "
18	1410	N40W	- in middle of steeper descent - 15° - 20°
19	1470	N55W	
4509	20 1550	N50W	- ls. edge of flat on which village stands
21	1610	W	- in village
22	1700	N25W	- in village
23	1850	—	- shore - at anchorage

R. 22, #5, 6 - not used







10

51709

TO DUPLICATE THIS ORDER  
REFER TO  
JOB No.





